Observations of Comet c 1908, *from Photographs taken with the 30-inch Reflector of the Thompson Equatorial at the Royal Observatory, Greenwich.*

(*Communicated by the Astronomer Royal.*)

The following positions of Comet *c* 1908 were obtained from photographs taken with the 30-inch reflector. As a rule, two exposures of 2 minutes each were made on each plate.

The plates were measured with the astrographic micrometer. Six reference stars were measured with the comet, their positions being derived from the Greenwich Nine-Year Catalogue 1900, or the Catalogues of the Astronomische Gesellschaft.

The positions given are not corrected for Parallax.

Log Parallax Correction = log Parallax Factor − log Δ.

Date and G.M.T.				Apparent R.A.			Apparent Dec.			Log Parallax Factor.	
										R.A.	Dec.
1908.	d	h	m	s	h	m	s	°	′	″	
Sept.	4	14	30	12	3	15	26·88	+67	55	37·7	−9·653	−0·288
	4	14	56	51	3	15	22·42	67	56	16·3	−9·539	−0·339
	6	12	0	6	3	7	32·40	69	1	29·7	−9·953	−8·330
	7	12	43	48	3	2	32·87	69	37	58·4	−9·893	−0·025
	8	13	40	47	2	56	55·83	70	14	59·6	−9·751	−0·322
	14	9	25	41	2	10	53·78	73	40	5·2	−0·105	+9·913
	17	10	51	51	1	32	30·48	75	13	2·5	−9·996	−0·321
	18	11	36	57	1	16	42·72	75	38	46·1	−9·832	−0·480
	21	8	4	11	0	25	21·81	76	25	39·8	−0·151	−9·813
	25	8	35	20	23	0	45·24	76	3	34·3	−9·897	−0·457
	29	11	22	42	21	40	53·43	73	29	18·6	+9·855	−0·385
Oct.	1	11	43	8	21	10	5·54	71	29	8·9	+9·937	−0·104
	2	9	47	29	20	57	48·33	70	26	4·1	+9·642	−0·388
	3	14	5	9	20	43	39·03	68	58	29·4	+0·008	+0·432
	5	16	51	47	20	22	15·76	66	5	11·3	+9·747	+0·828
	6	9	16	2	20	16	19·11	65	5	28·2	+9·639	−0·154
	14	8	9	37	19	30	53·02	51	59	3·9	+9·506	+9·763
	15	7	37	27	19	27	23·28	50	15	53·8	+9·406	+9·777
	21	10	18	14	19	11	28·59	39	31	34·7	+0·664	+0·651
	23	7	48	4	19	8	4·50	36	17	34·4	+9·481	+0·492
	24	7	20	58	19	6	31·19	34	39	5·9	+9·423	+0·495
	26	8	42	14	19	3	40·23	31	17	46·3	+9·567	+0·644
	27	8	40	17	19	2	27·66	29	42	41·4	+9·564	+0·663
	29	6	8	24	19	0	26·44	26	47	36·7	+9·233	+0·587
	30	6	2	25	18	59	29·83	25	18	28·4	+9·223	+0·608
Nov.	3	6	13	39	18	56	26·23	19	40	35·6	+9·313	+0·688
	8	7	8	48	18	53	51·41	13	22	54·1	+9·468	+0·769
	9	6	44	5	18	53	28·66	12	15	4·0	+9·432	+0·770
	10	6	45	43	18	53	7·52	11	7	53·7	+9·441	+0·779
	17	6	13	1	18	51	26·49	4	7	7·1	+9·428	+0·817
	19	6	29	12	18	51	8·81	+ 2	19	44·0	+9·466	+0·827
	25	6	9	25	18	50	35·69	− 2	29	45·9	+9·472	+0·844

Royal Observatory, Greenwich:
1908 *December* 11.

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NEW "CAVE" NEBULA IN CEPHEUS.—MAX WOLF.

A New "Cave-Nebula" in Cepheus. By Max Wolf, Ph.D. (Plate 6.)

I have the pleasure to announce the discovery of a new interesting nebula in the midst of the constellation of Cepheus.

The nebula was found by Dr. Kopff on a plate taken by him with my Bruce-telescope on the night of October 21st, 1908, and I photographed the object as soon as possible with our reflector. It has a very remarkable shape; and, as it forms an important addition to this class of nebulae, I forward the accompanying description.

The nebula involves the star B.D. $+69^\circ$, 1231:

$$\alpha = 22^h\ 10^m\ 1^s, \quad \delta = +69^\circ\ 31'\cdot7 \quad (1855\cdot0),$$

which is given in the *B.D.* as 8·8 magnitude. This star was observed in three zones of the Christiania A.G. Catalogue where it has the number 3552 and is given as a star of magnitude 8·9, without any remark. The bright star visible south-west of the nebula on the photograph is B.D. $+69^\circ$, 1228; it is given as 5·5 mag. in the same Catalogue. This nebula is a good example of the singular phenomenon of cave-formation amongst Milky Way stars. In some respects it shows the general characteristics of other cave-nebulæ, but it also offers several new features. It forms the end of a long starless lacuna, directed from south to north, resembling that of the T Cephei nebula. It has a bright condensation seen visually as a star of the ninth magnitude; it shows waves similar to those in the π_2 Cygni and T Cephei nebulæ, but has dark spaces north of the brighter parts, which seem darker than the sky in the neighbourhood. Round these dark spots extremely faint nebulous material is spread over the lacuna. The lacuna itself is about 1° to 2° long from south to north, and about 7′ to 10′ broad, but can be traced, with some interruptions, much further north. At about $22^h\ 10^m, +70^\circ\cdot0$ a bridge of stars traverses the long lacuna from east to west.

All over the cave lies a network of still darker spots and channels. This raises the hope that we may understand the interesting process more thoroughly at some future time, when we can photograph the region in more detail with greater optical power.

The bright southern edge of the nebula overlaps the region still filled with faint stars. So we find here, as already noted in some other objects, that the stars do not begin to decrease in number at the exact border of the visible nebula, but somewhat within it. The same was the case with the Z Orionis, the ψ Eridani, and other nebulæ. All such nebulæ have one border of great intensity, and this border overlaps the stars.

Some fine, complicated, but very small dark channels are visible in the south-western edge, near the stellar nucleus.

The reproduction given here is from a plate taken by me with the 28-inch Waltz-reflector of this observatory, November 16th, 1908, with two and a half hours' exposure through thin clouds.

Astrophysical Observatory, Heidelberg:
1908 *December* 4.